



DESIGN PRACTICE

PROF. SHANTANU BHATTACHARYA

Department of Mechanical Engineering
IIT Kanpur

TYPE OF COURSE : Rerun | Elective | UG/PG

COURSE DURATION : 8 weeks (21 Feb' 22 - 15 Apr' 22)

EXAM DATE : 24 Apr 2022

INTENDED AUDIENCE : Students and Faculty of BE/ME/MS/BSc/MSc streams

INDUSTRY SUPPORT : SMIL (Gurgaon), HAL Kanpur and Lucknow, Small & medium scale production industries

COURSE OUTLINE

The course is intended for beginners in post graduate studies in Design. It can also serve well for aspiring professionals in industry who will be willing to undertake careers in the field of design.

ABOUT INSTRUCTOR

Prof. Shantanu Bhattacharya is currently as Associate Professor at the Department of Mechanical Engineering at the Indian Institute of technology Kanpur. Prior to joining the department he has been associated at a senior management level at Suzuki Motors and has over 6 years of experience in various production capacities and positions. Prof. Bhattacharya currently takes care of the 4-I laboratory at IIT Kanpur as its coordinator and has also been associated with the TA202 laboratory as coordinator between 2012-2015. Both these laboratories are very high end in terms of offering manufacturing training programs

COURSE PLAN

Week 1 : Introduction to Design/Product design

Week 2 : Stanford model of Design thinking/ Stages of engineering design of products/
Introduction to Concurrent engineering

Week 3 : Concurrent engineering in Practice

Week 4 : Concurrent engineering in Practice

Week 5 : Product embodiment design(robustness of design/FMEA techniques).

Week 6 : House of quality, Specifications (Fits and Tolerances), Axiomatic Design, Introduction to Group Technology, Creating forms and shapes.

Week 7 : Geometric transformation models, Introduction to electronics

Week 8 : Material selection process in design, Applied Ergonomics (work systems design, Introduction to bio-mechanics)